

WHAT IS CLAIMED IS:

1. A solid-state image sensing apparatus comprising:

an effective signal photoelectric conversion unit
5 to receive object light; and

a light-shielded reference signal photoelectric conversion unit to output an optical black level equivalent signal,

wherein in addition to an output from the
10 effective signal photoelectric conversion unit, one of an output from the reference signal photoelectric conversion unit and a predetermined reference voltage is selectively output.

2. A solid-state image sensing apparatus according to claim 1, which further comprises a noise suppressing circuit which suppresses a reset variation
15 for each pixel, and

20 in which switching between the predetermined reference voltage and the output from the reference signal photoelectric conversion unit is done by changing a driving signal of the noise suppressing circuit.

25 3. A solid-state image sensing apparatus according to claim 1, wherein the predetermined reference voltage is a voltage to be applied to the reference signal photoelectric conversion unit.

4. A solid-state image sensing apparatus

according to claim 1, which further comprises a switch unit which switches at least between the predetermined reference voltage and the output from the reference signal photoelectric conversion unit, and

5 in which whether an output signal from the reference signal photoelectric conversion unit can be read out can be selected.

5. A solid-state image sensing apparatus comprising:

10 an effective signal photoelectric conversion unit which photoelectrically converts an object image and outputs an effective image signal;

 a determination unit which compares a luminance value in a screen sensed in accordance with a predetermined procedure with a predetermined value;

15 a light-shielded reference signal photoelectric conversion unit which outputs an optical black level equivalent signal; and

20 a noise suppressing unit which suppresses a noise component contained in the effective image signal by referring to one of an output from the reference signal photoelectric conversion unit and a predetermined reference voltage,

25 wherein the noise suppressing unit outputs the predetermined reference voltage when the determination unit determines that the luminance value in the sensed screen is not less than the predetermined value.

6. A solid-state image sensing apparatus according to claim 1, which further comprises a noise suppressing circuit to suppress a reset variation for each pixel, the noise suppressing circuit having at least a clamp capacitor, a sample-and-hold switch, a clamp switch, and a sample-and-hold capacitor, which are connected to each of vertical signal lines extending from the effective signal photoelectric conversion unit and the reference signal photoelectric conversion unit, and

in which one of the output from the reference signal photoelectric conversion unit and the predetermined reference voltage is held in the sample-and-hold capacitor for the reference signal photoelectric conversion unit and output by driving and controlling the sample-and-hold switch and the clamp switch of the vertical signal lines extending from the reference signal photoelectric conversion unit.

7. A solid-state image sensing apparatus according to claim 1, which further comprises a noise suppressing circuit to suppress a reset variation for each pixel, the noise suppressing circuit having at least a reset signal capacitor, a reset signal switch, an optical signal capacitor, and an optical signal switch, which are connected to each of vertical signal lines extending from the effective signal photoelectric conversion unit and the reference signal photoelectric

conversion unit, and

in which in a predetermined case, both of the
reset signal capacitor and the optical signal capacitor
are caused to hold reset signal components and output
the reset signal components by driving and controlling
the reset signal switch and the optical signal switch.

5 8. A solid-state image sensing apparatus
according to claim 7, wherein the predetermined case is
a case in which an incident light amount of the object
10 light is large.

9. A solid-state image sensing apparatus
according to claim 1, which further comprises a noise
suppressing circuit to suppress a reset variation for
each pixel, the noise suppressing circuit having at
15 least a capacitor connected to each of vertical signal
lines extending from the effective signal photoelectric
conversion unit and the reference signal photoelectric
conversion unit,

20 a first power supply line which supplies a power
to the effective signal photoelectric conversion unit,
and

a second power supply line which supplies a power
to the reference signal photoelectric conversion unit,
and

25 in which in a predetermined case, a potential of a
vertical signal line extending from the reference
signal photoelectric conversion unit is fixed to GND by

the second power supply line, and the predetermined reference voltage is held in the capacitor extending from the reference signal photoelectric conversion unit and output.

5 10. A solid-state image sensing apparatus according to claim 9, wherein the predetermined case is a case in which an incident light amount of the object light is large.

10 11. A solid-state image sensing apparatus according to claim 1, which further comprises a noise suppressing circuit which suppresses a reset variation for each pixel, and

an output amplifier which amplifies an output from the noise suppressing circuit, and

15 in which a signal output level of the effective signal photoelectric conversion unit is corrected selectively on the basis of one of a pixel signal component of the reference signal photoelectric conversion unit and a reset level of the output amplifier, which is different from the signal component.

20 12. A solid-state image sensing apparatus comprising:

25 effective signal photoelectric conversion means for receiving object light; and
 light-shielded reference signal photoelectric conversion means for outputting an optical black level

equivalent signal,

wherein in addition to an output from the effective signal photoelectric conversion means, one of an output from the reference signal photoelectric conversion means and a predetermined reference voltage is selectively output.